Next VVSG Training
CRT - Hardware Requirements

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Three Areas of Hardware Requirements

- Electromagnetic Compatibility (EMC)
- Other Environmental
- Quality Assurance and Configuration Management

Three Areas of Hardware Requirements

- General goals for the next VVSG
  - To
    - reflect the latest available information
    - reference applicable standards, rather than repeating or excerpting text from these standards
    - use more precise and testable wording
    - clearly separate requirements from testing specifications

Electromagnetic Compatibility

- EMC requirements control how
  - the environment can affect electronic voting devices (Immunity)
  - electronic voting devices can affect their environment (Emission Limits)

Electromagnetic Compatibility

- Conducted Compatibility
  - Interaction with local power supply
- Radiated Compatibility
  - Electrostatic discharge
  - Cell phones
- Telecommunications Compatibility
  - Telephone line to central tabulator

Electromagnetic Compatibility

- 2002 VSS
  - Vol. I, sections 3.2.2.4 – 3.2.2.12
  - Vol. II, section 4.8
- 2005 VVSG (slightly revised from 2002)
  - Vol. I, sections 4.1.2.4 – 4.1.2.12
  - Vol. II, section 4.8
- Next VVSG (totally rewritten from 2005)
  - Part 1, sections 6.3.4 – 6.3.6
  - Part 3, sections 5.1.1 – 5.1.3

Other Environmental

- These requirements deal with
  - General build quality
  - Durability
  - Maintainability
  - Operating temperature and humidity
  - Equipment transportation and storage

Other Environmental

- 2002 VSS
  - Vol. I, sections 3.2.2, 3.3, 3.4.2, 3.4.4, 3.4.7
  - Vol. II, sections 4.6, 4.7.1, 4.7.2, 4.8
- 2005 VVSG (unchanged from 2002)
  - Vol. I, sections 4.1.2, 4.2, 4.3.2, 4.3.4, 4.3.7
  - Vol. II, sections 4.6, 4.7.1, 4.7.2, 4.8

Other Environmental

- Next VVSG (enhanced and slightly revised from 2005)
  - New
    - general build quality requirements
    - durability of paper requirement
    - operating humidity requirement
  - Part 1, sections 6.4.3 – 6.4.7
  - Part 3, sections 5.1.4 – 5.1.5

Quality Assurance and Configuration Management

- Requirements on manufacturers to
  - QA: ensure that they adhere to practices during the development, manufacture, and maintenance of voting systems that build quality into the systems
  - CM: develop activities and associated practices that ensure full knowledge and control of the components of their voting systems

Quality Assurance and Configuration Management

- 2002 VSS and 2005 VVSG
  - Statements of general goals and good practices, but not specific to voting systems
  - No substantive, verifiable requirements
  - No references to generally accepted industry standards
- Complaints that delivered systems were sometimes not of the highest quality

Quality Assurance and Configuration Management

- Next VVSG
  - ISO 9000/9001 (QA) and ISO 10007 (CM) standards provide the framework for the requirements
  - Manufacturer must deliver a well defined Quality Manual detailing how the processes and procedures required by the VVSG are being implemented

Quality Assurance and Configuration Management

- 2002 VSS
  - Vol. I, section 7 (QA), section 8 (CM)
  - Vol. II, section 7
- 2005 VVSG (unchanged from 2002)
  - Vol. I, section 7 (QA), section 8 (CM)
  - Vol. II, section 7

Quality Assurance and Configuration Management

- Next VVSG (totally rewritten from 2005)
  - Part 1, section 6.4.2
  - Part 2, chapter 2
  - Part 3, section 4.4